

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows, and please cancel claims 51-54, added in this reissue application. The following are claims containing amendments made for the first time in this response (although amendments made in earlier amendments are also present in certain claims). A full set of all claims amended during the pendency of this reissue application is present in APPENDIX II. APPENDIX III contains all claims in the reissue application.

[2. An antibody according to claim 1 which is mouse monoclonal antibody 33.28 (ATCC HB-12315) or an antibody which binds specifically to a colon carcinoma-associated epitope that specifically binds to monoclonal antibody 33.28.]

3. (twice amended) An antibody according to claim [2] 1 wherein said colon carcinoma-associated antigen is a protein having a molecular weight of about 61.1 kilodaltons as measured by gradient polyacrylamide gel electrophoresis.

5. (three times amended) [An] A monoclonal antibody [according to claim 4 wherein said colon carcinoma-associated antigen is a protein having a molecular weight of about 72 kilodaltons] which comprises an antigen-binding region derived from the H chain of a murine monoclonal antibody selected from the group consisting of (i) murine monoclonal antibody 33.28 as produced by hybridoma PCA 33.28, deposited with the American Type Culture Collection and assigned accession number PTA-5413.

6. (three times amended) An antibody according to claim [2] 1 wherein said colon carcinoma-associated antigen is a glycoprotein, the protein component having a molecular weight of 61.1 kilodaltons as measured by gradient polyacrylamide gel electrophoresis.

7. (twice amended) An antibody according to claim 1, 4 or 5 immobilized on a solid phase.
8. (twice amended) An antibody according to claim 1, 4 or 5 which is detectably labeled.
10. (twice amended) An antibody according to claim 1, 4 or 5 conjugated to a cytotoxic radionuclide.
11. (twice amended) An antibody according to claim 1, 4 or 5 conjugated to a cytotoxic drug.
12. (twice amended) An antibody according to claim 1, 4 or 5 conjugated to a cytotoxic protein.
22. (twice amended) An immunoassay for detecting a colon carcinoma-associated antigen which binds to mouse monoclonal antibody 33.28 [(ATCC HB-12315)] as produced by hybridoma PCA 33.28, deposited with the American Type Culture Collection and assigned accession number PTA-5413, in a sample comprising:
- (a) contacting said sample with an effective binding amount of the antibody according to claim 1; and
 - (b) detecting said antigen by detecting the binding of the antibody to the [purified] colon carcinoma _ associated protein antigen.
- [30. A compartmentalized kit for the detection of a human colon carcinoma-associated antigen, wherein the antigen has the following characteristics:
- (a) said antigen is purified to the extent that the membrane fractions are free of HL-A antigen and are substantially free from non-immunogenic glycoprotein fractions;
 - (b) said antigen is not detectable on normal colon cancer free human tissues;
 - (c) said antigen is not detectable on human carcinoma cells other than colon carcinoma cells;

(d) said antigen is specifically immunogenic in humans; and
(e) said antigen induces an immune response in humans having colon carcinoma which is expressed as cell mediated immunity,
said kit comprising a first container adapted to contain an antibody to said antigen or an active component thereof, and a second container adapted to contain a second antibody to said antigen or an active component thereof, said second antibody being labeled with a reporter molecule capable of giving a detectable signal.]

[31. A kit according to claim 30 wherein the reporter molecule is a radioisotope, an enzyme, a fluorescent molecule, a chemiluminescent molecule or a bioluminescent molecule.]

[32. A kit according to claim 30 wherein the reporter molecule is an enzyme.]

[33. A kit according to claim 30 wherein the kit further comprises a third container adapted to contain a substrate for the enzyme.]

[34. A compartmentalized kit for the detection of a human colon carcinoma-associated antigen, wherein the antigen has the following characteristics:

(a) said antigen is purified to the extent that the membrane fractions are free of HL-A antigen and are substantially free from non-immunogenic glycoprotein fractions;

(b) said antigen is not detectable on normal colon cancer free human tissues;

(c) said antigen is not detectable on human carcinoma cells other than colon carcinoma cells;

(d) said antigen is specifically immunogenic in humans; and

(e) said antigen induces an immune response in humans having colon carcinoma which is expressed as cell mediated immunity,
said kit comprising a first container adapted to contain monoclonal antibody 31.1 (ATCC HB-12314) to said antigen and a second container adapted to contain a second antibody

to said antigen or an active component thereof, said second antibody being labeled with a reporter molecule capable of giving a detectable signal.]

[35. A kit according to claim 34 wherein the reporter molecule is a radioisotope, an enzyme, a fluorescent molecule, a chemiluminescent molecule or a bioluminescent molecule.]

[36. A kit according to claim 32 wherein the reporter molecule is an enzyme.]

[37. A kit according to claim 33 wherein the kit further comprises a third container adapted to contain a substrate for the enzyme.]

[38. A compartmentalized kit for the detection of a human colon carcinoma-associated antigen, wherein the antigen has the following characteristics:

(a) said antigen is purified to the extent that the membrane fractions are free of HL-A antigen and are substantially free from non-immunogenic glycoprotein fractions;

(b) said antigen is not detectable on normal colon cancer free human tissues;

(c) said antigen is not detectable on human carcinoma cells other than colon carcinoma cells;

(d) said antigen is specifically immunogenic in humans; and

(e) said antigen induces an immune response in humans having colon carcinoma which is expressed as cell mediated immunity,

said kit comprising a first container adapted to contain monoclonal antibody 33.28 (ATCC HB-12315) to said antigen and a second container adapted to contain a second antibody to said antigen or an active component thereof, said second antibody being labeled with a reporter molecule capable of giving a detectable signal.]

[39. A kit according to claim 38 wherein the reporter molecule is a radioisotope, an enzyme, a fluorescent molecule, a chemiluminescent molecule or a bioluminescent molecule.]

[40. A kit according to claim 38 wherein the reporter molecule is an enzyme.]

[41. A kit according to claim 38 wherein the kit further comprises a third container adapted to contain a substrate for the enzyme.]

[44. The chimeric antibody according to claim 42 wherein said colon carcinoma-associated antigen is a protein having a molecular weight of 72 kilodalton.]

50. (amended) A kit for the immunohistochemical detection of colon carcinoma comprising:

- (a) mouse/human chimeric antibody Chi #1 (ATCC CRL-12316);
- (b) reagents for immunoperoxidase and secondary antibody;
- (c) immunoperoxidase; and
- (d) colorizing reagents.